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Contents

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Are the schools dead ? Are they functioning ? Are they preparing children to meet the'challenges facing the country ? Are they catering to the needs of children, society and the nation ? Are they providing education according to the recommendations of the Commissions appointed by the Government of India and the State Governments from time to time improve the system of education in the country ? Have our schools changed themselves according to the National Policies on Education 1968 and 1986 ? Do the schools have the infrastructure to take measures to provide efficient education according to the life, needs and aspirations of the people ? Are those responsible for administration and supervision of education serious to help our schools to improve education qualitatively'? Do the political parties have a clear vision of the system of education they want for the country ? Why did Basic education, an offspring of Mahatma's philosophy of education fail in our country ? These are some of the questions being raised by the parents, social reformers and educationists. Our first Prime Minister - a powerful personality wanted revolution in the field of education. This could not be achieved because of lack of political will. Who is responsible ? It is very easy to throw the blame on others. The politicians blame the teachers and the educationist; the teachers blame the parents and the parents blame all others as well as the children. But the children suffer and the nation cries.

The schools in our country, unfortunately, have failed to deliver the goods. They have become insensitive to the demands of the modem democratic secular and socialistic society. The schools are where they were when the British left this country. Rather, they have become worse then before. In the words of the Education Commission (1966). The present system of education designed to meet the needs of an imperial administration within the limitations set by a feudal and traditional society, will need radical changes if it is to meet the purposes of a modernizing democratic and socialistic society .... In fact, what is needed is a revolution in education which in turn will set in motion the much desired social, economic and cultural revolution".

The schools in India continue to provide education, if any, without any positive change. As a matter of fact the situation has gone from bad to worse. The schools - government, government-aided and private have become factories. The number has increased and the Headmasters/Principals have neither the ability nor the will to provide leadership to the staff as well as the students. The writer had

an opportunity of meeting a number of Heads of the Institutions of the High Schools and Higher Secondary Schools. In an informal talk with the Principal of a Government Higher Secondary School, the writer asked him as to "How many times did you meet your staff and students of your school *T* No, you are sadly mistaken. The school has been closed and a factory has been established. I am now a manager of this factory of more than three thousand individuals. The aim of the institution is to produce so-called literates who go to the institutions of higher learning with a certificate in their hands. If they have learnt something during their stay in this factory, it is good. If they haven't, it is wonderful. We get our pay packets in time. That is our main concern. Who has the time to think about children and their all round development ? These things are taught only in the training colleges. I get an opportunity to meet my members of the staff only twice. First of all, when they come to report on duty and secondly, when they come to hand over charge. Do you think I have the time to meet my children ? The files keep me busy all the time. I must keep the files in order just to survive." This speaks volumes of the state of affairs in our schools and colleges.

Radhakrishnan Commission (1949) stated that 'This is a generation which knows how to doubt but not how to admire, much less to believe. This aimlessness, this indifference to basic issues is to no small extent, responsible for the decline of standards, for the fading of ideals, for the defeat of human endeavour". This was stated in the year 1949. The products of our educational system today are in no way different about who Radhakrishnan Commission had pointed out. Most of the teachers, students and parents equate school education with only certification. The result is that there is a mad rush for the certificates being awarded at the neglect of the total development of the personality of the children emphasized by the three National Commissions appointed after independence.

Kothari Commission (1966) stated that the most important and urgent reform needed in education is to transform it, to endeavour to relate it to the life, needs and aspirations of the people, and thereby make it a powerful instrument of social, economic and cultural transformation necessary for the realization of the national goal." The school authorities - the Directors of Education and his/her team, the Heads of the educational institutions, the teachers as well as the parents do not take these reports seriously. They firmly believe that the Commissions may come and the Commissions may go, the schools dead or half-dead will continue whatever way they work. They know that the schools are dead but the mummified body of the schools are to be preserved for want of an alternative.

The Secondary Education Commission (1953) pointed out various defects of the then existing system of education which made the school education wasteful and ineffective. Most of the pointed out defects exist even today inspite of the recommendations of the National and State level Commissions and the two National Policies on Education. All these documents emphasize that the education given in

our schools is isolated from real life situations. The studies in these institutions prepare students only for the next stage in the education ladder. They do not develop basic qualities of discipline, cooperation and leadership which would make students worthy and useful citizens of a democratic republic. The 'non-cognitive' aspects of the personality of the children are largely ignored. The ghost of examination haunts the students, the teachers and the parents alike. The result is too much emphasis on academic aspect only at the cost of the development of self-expression, self-reliance and independent thinking. In 1993, even for the nursery education, the aim is to prepare the children for admission in prestigious English medium schools. The unplanned mushroom growth of private English medium schools bears testimony to it.

Discussing the role of education in developing democratic citizenship, Mudaliar Commission (1953) recommended that the Secondary schools should turn out effective democratic citizens who should have the ability to sift truth from falsehood and to reject the dangerous appeal of fanaticism and prejudice. The Commission emphasized that schools must cultivate the qualities of self-discipline, cooperation, social sensitiveness and tolerance. The Education Commission (1966) stressed that education must strive to build character by cultivating social, moral and spiritual values.

If one goes round in any important city with open eyes and ears, s/he will find that the schools have miserably failed to achieve these aims. The so-called educated rather literate people are more fanatic than those who never got an opportunity to be in any school. They lack in social sensitivity and they only think of their own interest. The mass media go on advertising day in and day out that the energy must be saved but are our educated /literate friends aware of it, particularly when they do not have to pay for it directly ? In some states, the street lights are on during the day under the bright sunlight in front of the collectorate, courts, police stations and outposts, schools and colleges and the press bureaus and various localities where highly well-placed people live, but no one takes notice of it and why should they ? It is none of their concern. The schools have failed to develop social values in them. It will be no exaggeration to state that schools are turning out people who do not have faith in democratic discipline because the schools have never given them a taste of it during their stay with them. .

The writer once boarded a train a few years ago and found that bonafide ticket holders of first class were standing outside in the corridor and some youngmen without tickets were sitting in the compartment. The TTE very politely said "The bonafide passengers are standing. You please give them seat and you can stand." They replied rudely" Don't you know, we are students. Don't disturb us. We will get down at the next station. Otherwise you will be in trouble.". The TTE was requested by the passengers to let them sit. An old gentleman said that in western countries and Japan, students do not misbehave because they are students. They are

conscious that their misbehavior would bring disgrace to their Alma Mater. In India students misbehave probably because they are students.

Competition rather than co-operation is the quality developed in our students. They learn to score more marks than others either by hook or by crook. It is a known fact that students hide books in the library or in their boxes, if they live in hostels, so that good books are not easily available to others. Why are they doing it ? Probably, because the school system has taught them to be competitive rather than co-operative.

Let all the literate persons ask the following questions and come to their own conclusions. Whether the present generation is the product of miseducation or not ? Are those in any position - higher or otherwise - not misusing the facilities give to them for use in their official capacity ? Are the members of their family not misusing the facilities give to them for use in their official capacity ? Are the members of their family not misusing the vehicle(s), the telephone facility including S.T.D.S etc. without thinking as to who is to pay for expenses? Are the literate people doing their best according to their capacity? Are they not following the policy of "ChalegaM. The schools are expected to develop a new attitude towards work - a conviction that if an educated person takes a work in hand she/he will try to complete the piece of work as efficiently and artistically as their powers permit. There should be a yearning for perfection - a sense of pride in doing everything as thoroughly as one can. Do the products of our educational system exhibit any of these ?

The question is: why has the school system been preserved inspite of the fact that the situation is worsening day by day ? The society is, probably preserving the 'mummy' of the school in the hope that God will one' day descend from heaven to make them alive to perform their duties well.

NOTES FOR THE GUIDANCE OF THE CONTRIBUTORS

Two copies of the manuscripts typed on A 4 (8 1/2" x qq") size bond paper should be sent to the editor at the address of the Association. Every manuscript should accompany an abstract of 100-150 words and a brief biographical note about the author (s). References should be listed alphabetically at the end of the paper in the following manner:

1. Buch, M.B. (1965) A programme of school improvement In *Teacher Education* 10,2, 77-84, October.
2. Das, R.C., Passi, B.K. and Singh, L.C. (1980) *Relative Effectiveness of Microteaching Components.* NCERT, New Delhi.
3. Mukerji, S.N. (Ed.) (1968) *Education of Teachers in India.* S. Chand & Co, New Delhi.
4. Shah, *MM.* (1988) Outstanding issues and problems in teacher education. In Kundu, C.L. (Ed.) *Indian Yearbook on Teacher Education,* 65-73. Sterling, New Delhi.

SCORES OF VARIOUS SUB-SAMPLES OF SECONDARY SCHOOL CHILDREN OF KERALA

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Advancements in science and technological developments have not been able to wipe out century old superstitious beliefs and practices from human minds. Men and women of different races and of different cultures still continue to harbour within their minds a certain amount of misconceptions. (Jahoda 1970). Superstitions, in present times, need to be analyzed in the context of social stereotypes dominating the individual's behaviour and self-awareness (Kojder 1982).

The Problem

The purpose of this study was to compare the superstitious belief scores of Various sub-samples of secondary school children

Hypotheses

The following hypotheses were formulated for the study:

There will be significant difference in the superstitious belief scores of the following sub-samples: 1. Boys and girls, 2. Rural and urban subjects, 3. Students from standard VIII & and standard IX, 4. Students from standards IX and X, 5. Students from standards VIII and X

Method

The survey method was used for collecting the data for the study. 560 secondary school children studying in three districts of Kerala were selected for the study. The tool used was a questionnaire is which a list of commonly held superstitious beliefs were given. The subjects were asked the extent to which they believed in each superstitions belief against a three point scale. Based on the responses the superstitious belief score was calculated.

Findings

Of the total population (n=560) one hundred and sixty two subjects (41%)

had high superstition scores (mean score=45) and one hundred and ninety one subjects (34%) had low superstition scores (mean score=20). The critical rate (CR) was calculated to test the significance of the difference between means. The results are shown in table 1-5.

Table 1

Comparison of boys and girls with respect to their superstitious belief scores

Groups	Sample size (N)	Mean (M)	Standard deviation (S.D)	Critical ratio (C.R)	Level of Significance
Boys	285	23.16	13.24	1.39	p > 05
Girls	275	25	17.5		

No significant differenca was found between boys and girls with respect to their superstitious belief scores.

Table 2

Comparison of rural and urban subjects with respect to their superstitious beliefs scores

Locality	Sample size (N)	Mean (M)	Standard deviation (S.D)	Critical ratio (CR)	Level of Significance
Rural	293	22.2	11.76	5.11	p>01
Urban	267	27.6	13.11		

Rural and urban subjects differed significantly with respect to their superstitious belief scores.

Table 3

Comparison of standard VIII and IX subjects with respect to their superstitious beliefs scores.

Instructional levels	Sample size_(N)	Mean (M)	Standard deviation (S.D)	Critical ratio (C.R)	Level of Significance
Std. VIII	168	30.75	14.24	3.68	P<01
Std. IX	206	25.6	12.61		

Students in standard VIII differed significantly from students in std IX with respect to their superstitious beliefs scores. Students in std IX were found to have a relatively low superstitious beliefs scores.

Table 4

Comparison of standard VIII and X subjects with respect to their superstitious beliefs scores

Instructional levels	Sample size	Mean	Standard deviation	Critical ratio (C.R)	Level of Significance
Std. VIII	168	30.75	14.24	5.36	P<01
Std. X	186	23.3	11.63		

Students in standards VIII and X differed significantly with respects to their superstitious beliefs scores. Students of standard VIII were found to have a relatively higher superstitious level.

Table 5

Comparison of standard IX and standard X Subjects with respect to their superstitious beliefs scores.

Instructional levels	Sample size (N)	Mean (M)	Standard deviation (S.D)	Critical ratio (C.R)	Level of Significance
Std. IX	206	25.6	12.61	1.88	P> 05
Std. X	186	23.3	11.63		

Students of standard IX and X were found to be identical with respect to their levels of superstition.

Educational Implications

This study throws light on the levels of superstition held by various sub-samples in a population. A study of this kind reveals how different samples of a population differ in various respects, superstitious levels being one of them. Similarly, it also help us to conclude that age, circumstances and background influence various personality characteristics.

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2. Kojder, A. (1982) Personality of every day life; characteristics of superstitious beliefs. In *Studies in Sociology* 1,2,84-85.

ENVIRONMENTAL AWARENESS OF THE SCHOOL TEACHERS IN RELATION TO CASTE

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Introduction

School curricula should include environmental education both as an intrinsic part of other subjects so that conservation attitudes can influence all activities, and as a separate subject, so that ecology can be taught more formally and its concepts more readily grasped. Inexpensive teaching materials (text books, audio-visual aids, posters, pamphlets, etc.) should be prepared. The materials should explain ecological concepts and the objectives of conservation, using local examples wherever possible. The effectiveness of teaching materials should be regularly evaluated. Environmental education should also be an important part of the out of school activities of children. Wild life clubs should be encouraged and environmental education included in the activities of youth groups and mass media (radio, television, news papers and periodicals) should be fully used to reach the general public. Advantage should be taken of those occasions when the public comes into contact with plants and animals, in national park and other protected areas, in zoos and botanical gardens, and in natural history museums to explain conservation objectives and their contribution to human survival and well being. In addition, special areas should be set aside for training, demonstration and education in ecology and conservation for use by schools, universities and the general public.

Considering the above theme for environment studies, researchers have attempted for measuring environmental awareness of the teachers working at various levels. Indian culture respects environment with religious flavour; if it becomes the life style of the people. Rearing system in socio-religious perspectives is also important in this regard and this motivated to study environmental awareness in relation to caste; to find out which group holds higher level of environmental awareness and it can also suggest which group must be given priority for the environmental awareness programme.

Objectives

The specific objectives of the study are given as under:

1. To study the nature of environmental awareness of the school teachers working in Gujarat.

2. To study the effect of caste on their level of environmental awareness.
3. To study the level of environmental awareness of B.C. teachers.
4. To study the level of environmental awareness of Non B.C> teachers.
5. To offer recommendations for the better environmental awareness.

Sample

The frequency distribution of the scores obtained on Environmental Awareness Questionnaire by the school teachers is found to be normally distributed. Keeping in view the objectives 100 teachers were selected randomly from the large sample. The research was related to the school teachers teaching in Standard X, so that there were random number of participants with respect to treatment (A) and caste (B).

The sample included in the study is shown below:-

E.A.P. (A)	Control group (A1)	Experimental group (A2)	Total
Caste (B)	B.C. (B_1)	Non B.C. (B_2)	
Total	50 (25+25)	50(25+25)	100

The tool to measure the awareness about the environment has been translated and standardized by the investigator. It was administered to the participants in the study.

Statistical Techniques

The data obtained on the questionnaire were analyzed statistically by ANOVA technique. In order to test the hypotheses built, the significance of main effect as well as interaction effects of the two variables, each is dichotomized into two levels. The hypotheses were checked and interpreted by computing F-Values using 2 X2 ANOVA design.

Formulation of Hypotheses

The null hypotheses generated were as under.:

HO_1 There is a significant effect of E.A.P. as a whole treatment on Environmental Awareness of the teachers of Experimental group.

$H0_2$. There is no significant difference in the mean score of Environmental Awareness of B.C. & Non B.C. teachers.

$H0_3$. There is no interaction between independent factors of E.A.P. Caste (i.e.B.C. & Non B.C.) upon Environmental Awareness of the teachers.

Tools Used

(1). The Environmental Awareness Programmes for School teachers developed by the Investigator.

(2). The Environmental Awareness Questionnaire translated and modified by the investigator.

Results and Discussion

The results have been summarised in the following table :

Source	df	S.S.	M.S.S.	F	
A	1	7499.56	7499.56	60.78	significant
B	1	73.96	73.96	0.60	N.S.
AXB	1	12.96	12.96	0.11	N.S.
Error	96	11844	123.38		

** F (1,96;1 %) = 6.912

* F (1,96; 5%) = 3.944

The F-Value is 60.78 which is significant at 0.01 level. Hence, the hypothesis was accepted and it was concluded that the E.A.P. has played an important role in enhancing the E.A. of the teachers. It was also concluded that the mean scores of the E.A. of teachers of experimental group was greater than that of teachers of control group.

The second null hypothesis of the effect of the level of caste group of teachers is not significant as the F-ratio is 0.60. Hence, it was concluded that the caste of the teachers does not play an important role on the E.A. of the teachers.

The interaction of variables E.A.P. and the caste of the teachers is not significant as the F-ratio is 0.11. Hence, it is concluded that the variables E.A.P. and caste of the teachers have no joint effect on E.A. of the teachers.

Conclusion

It was concluded that Environmental Awareness Programme and caste have their joint effect upon the Environmental Awareness of the teachers.

A COMPARATIVE STUUi o^* NON-INSTITUTIONALIZED CHILDREN ON MEASUKC» v,« INTELLECTUAL ABILITY AND EXCITABILITY.

fee -.v

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Introduction

The traditional view "that the family plays a crucial role in shaping the personality of the children" seems to have been confirmed directly or obliquely by numerous psychological studies conducted in diverse social and cultural settings. (Goldfrab, 1943, 1945; Rutter 1971, 1972; Yarrow 1961, 1964). Parent-child interactions are indeed very important and serve some very inportant functions. In the absence of the family as in the orphanaged children these functions are." performed by the institutions. An "orphan" by some quirk of fate is formed into a situation where he is unable to experience any intimate family life. Though no precise data seem to be available, it is reasonable to assume that the country has a substantial number of orphans.

With a very large population of orphans in the country, with conflicting research findings and with a host of unresolved poignant problems, this topic seemed to hold a special lure for the interested researchers. (Gupta etal 1975; Quaisar& Ahmad 1979; Ribble 1944; Spitz & Wolf 1946). If the object of psychology is to study man in the broadest sense of the word, children have been considered proper subjects for investigation in man's quest to understand the world within and around him to guide their behaviour. Based on the work done on the effects of institutionalization, the present investigation was designed to make a comparative study between institutionalized and non-institutionalized children on measures of intellectual ability and excitability.

Metholodogy

Selection of Subjects

The setting of the study was An/a Orphanage, Darya Ganj, New Delhi. The children are kept in this institution from birth to 18 years. An attempt is made to educate the boys and girls, make them independent and able to look after themselves. For this reason, alongwith studies, they learn jobs like tailoring, gardening, cooking, etc. The children chosen from this orphanage are institutionalized children.

The non-institutionalized children were chosen from DAV School for Boys and Govt. School for Girls. Subjects were matched for age, intellectual ability and socio-economic background. On this basis, 20 boys and 20 girls were selected from orphans and 10 boys and 10 girls were selected from normals. However, the 10 normal girls were later eliminated from the study since they were unable to fulfil the criterion of selection (their intelligence was significantly lower than boys).

Tools Used

Raven's Coloured Progressive Matrices (Raven, 1956) and Excitability Rating Scale (Claridge & CO'Connor, 1959) were used to assess intellectual ability and excitability of orphans and normals.

Procedure

40 orphans (20 boys and 20 girls) and 10 normal boys were first given the Coloured Progressive Matrices. The data were collected in a group of 10 children in five sessions. The record forms were then collected from the children and scored to assess the intellectual capacity of each child. Matched on the basis of age, intelligence and socio-economic status, their emotionality was then assessed through the excitability rating scale. This scale was given to the teachers and they rated the excitability levels of child. To remove the bias of subjective rating this scale was given to two teachers and reliability coefficient was calculated between the two ratings. Where one teacher was available, she was given the scale again after three weeks and Test-Retest reliability coefficient was calculated. The subjects were then divided into low and high-excitability level groups.

Experimental Design

The experimental design Dsed for the orphans in this study is the 2 x 2 factorial design. The two factors used were (i) Sexes of the subjects at 2 levels (boys and girls) and (ii) Excitability rating scale score at 2 levels (high and low). In addition to the main effect of the factors, the interactions between these factors were also calculated. The excitability scores for the subjects were obtained from their teachers. The subjects were then divided into groups on the basis of this excitability score.

Results and Discussion

The results for both the tests are presented separately as follows.

(A) Coloured Progressive Matrices

In this study, 40 orphans (20 boys and 20 girls) were chosen. Only 10 normal boys matched for chronological age, intelligence and socio-economic status were chosen. Normal boys had to be eliminated because their performance on the intelligence test was far too inferior. The results obtained by the administration of Coloured Progressive Matrices, both to orphans and normal boys, are briefly summarized in Table-1.

Range of Intelligence Scores among Orphans and Normals

Range of Intelligence Scores	Orphan Boys	Normal Boys	Orphan Girls
10-14	0%	10%	60%
15-19	40%	10%	30%
20-24	30%	30%	10%
25-29	20%	50%	0%
30-34	10%	10%	0%

One of the first factors that came glaring in the view was the marked difference in intelligence regardless of whether they were orphans or home reared. It may be hazardous to postulate a hypothesis without sufficient data to support it. However, at first sight the explanation that seems to stand out most clearly is that girls tend to spend far more time in household chores even when they are raised in orphanages. At home, they are asked to help with the rearing of younger children, take up duties in the kitchen and generally help the mother to run the household. They have, therefore, little opportunity of enriching their experiences. It is well known that intelligence tests cannot measure latent ability. They measure learning by experience. The test used was the Coloured Progressive Matrices which measures reasoning and abstract intelligence. It stands to reason that if the girls have not been sufficiently exposed to the reasoning task, they will perform poorly on this test. Thus, the lower performance of the girls is probably not symbolic on the basis of sex differences, but is more a reflection of socio-economic trends and the economic imperative of groups with extremely low incomes where the gi?l becomes the economic asset.

An interesting finding emerging from this study is that the standard deviation for normal boys on the basis of Coloured Progressive Matrices was 4.01 whereas the standard deviation for orphans on the same test was 4.3. Contrary to findings of many other studies, orphan boys showed slightly better performance than normal boys, though not statistically significant. This may again be a projection of socio-economic circumstances. The boys in this socio-economic group had to perform certain tasks at home or outside. There was inadequate stimulation from parents and siblings and little value was placed on formal education/On the other hand, orphans had more free time and they were exposed to more systematic formal education than normal boys belonging to a comparable socio-economic status.

Most researches in the West have hypothesized that children nurtured in orphanages have lower intelligence. Khatri (1965) also put forward the hypothesis that institutionalized children have less intelligence than home-reared children. Bowlby (1952) and Ainsworth (1962) had for a long time postulated that maternal

deprivation impairs intelligence. It is evident that findings of researchers in the economically developed countries do not take adequate note of the economic stress associated with poverty. These strains seem to offer the most plausible explanation for our findings.

(B) Excitability Rating Scale

The scores were obtained on the following 9 factors of the scale for all the subjects and are given in Tables 2 to 7.

(1) Emotionality level
(2) Aggressive behaviour
(3) Activity level
(4) Variability of work activity
(5) Verbal activity
(6) Sociability
(7) Inter-personal Response
(8) Amenability
(9) Predictability

Table 2
Low Excitability Score for Orphan Boys

Low Excitability Score	I	II	III	IV	V	VI	VII	VIII	IX
1	0.18	0	0.34	0.28	0	o-	0.05	0.06	0.28
2.	0	0	0.30	0.28	0	0.14	0.26	0	0.14
3.	0.18	0	0	0	0	0	0.06	0	0.28
4.	0.18	0	0.30	0.14	0.22	0	0	0	0.14
5.	0	0.18	0	0.02	0.10	0.10	0	0	0.28
6.	0.18	0.18	0.01	0.14	0	0.10	0.12	0.34	0
7.	0	0	0	0.14	0	0	0	0.09	0.14
8.	0	0	0.10	0	0	0	0	0	0.28
9.	0	0.18	0.10	0.28	0.22	0	0.06	0.18	0.28
10.	0	0	0.02	0.14	0	0.68	0.06	0	0.52
Total	0.72	0.54	1.17	1.42	0.54	1.02	0.61	0.67	2.34
Mean	0.07	0.05	0.11	0.14	0.05	0.10	0.06	0.067	0.23

Table 3
High Excitability Score for Orphan Boys

Low Excitability Score	1	II	III	IV	V	VI	VII	VIII	IX
1.	0.09	0.26	0.30	0.28	0.22	0.14	0.26	0.34	0.32
2.	0.18	0.34	0.58	0.30	0.22	0.10	0.06	0.34	0.38
3.	0.44	0.26	0.34	0.38	0.43	0.14	0.12	0.52	0
4.	0	0.18	0.02	0.30	0.22	0.14	0.12	0.34	0.34
5.	0.18	0.18	0.30	0.28	0.22	0.30	0.06	0.26	0.28
6.	0.18	0.34	0.30	0.28	0.22	0.14	0.12	0.34	0.28
7.	0.18	0.18	0.30	0.30	0.22	0.14	0.26	0.34	0.32
8.	0.18	0.43	0.28	0.28	0.22	0.50	0.12	0.34	0.28
9.	0.18	0.52	0.30	0.28	0.30	0.10	0.12	0.34	0.36
10.	0.31	0.18	0.30	0.30	0.30	0.10	0.40	0.18	0.44
Total	1.92	2.87	2.92	.298	2.62	1.80	1.64	3.34	3.02
Mean	0.19	0.29	0.29	0.30	0.26	0.18	0.16	0.33	0.30

Table 4
Low Excitablity Score for Orphan Girls

Low Excitability Score	I	II	III	IV	V	VI	VII	VIII	IX
1.	0.44	0.52	0.46	0.48	0.30	0.50	0.40	0.34	0.36
2.	0.18	0.09	0.02	0.32	0.38	0.18	0.51	0.50	0.28
3.	0.18	0.52	0.30	0.28	0.30	0.18	0.51	0.18	0.52
4.	0.44	0	0.30	0.28	0.30	0.10	0.40	0.34	0.14
5.	0.44	0.52	0.58	0.48	0.48	0.50	0.62	0.50	0.56
6.	0.44	0	0.30	0.28	0.30	0.10	0.40	0.34	0.14
7.	0.18	0.52	0,30	0.28	0.30	0.18	0.26	0.34	0.52
8.	0.50	0.26	0.58	0.48	0.22	0	0.12	0.50	0.60
9.	0.50	0.17	0.16	0.28	0.43	0.10	0.12	0.50	0.36
10.	0.44	0.52	0.58	0.40	**0**.22	0.18	0.51	0.50	0.52
Total	3.74	3.12	3.58	3.48	3.23	2.02	3.85	4.04	4.00
Mean	0.37	0.31	0.36	0.35	0.32	0.20	0.39	0.40	0.40

Table 5
High Excitablity Score for Orphan Girls

High Excitability Score	I	II	III	IV	V	VI	VII	VIII	IX
1.	0	0.18	0.44	0.43	0	0	0.12	0	0.60
2.	0	0	0.02	0.14	0	0.10	0.26	0.09	0
3	0	0	0.16	0.28	0.11	0.10	0.12	0.18	0 •
4	0	0.18	0.46	0	0	0	0.12	0.09	0.28
5	0	0.18	*OA*[4]	0.28	0.11	0.05	0.11	0.23	0.14
6	0	0	0.01	0.14	0	0.10	0.12	0	0
7	0.18	0.18	0.02	0.30	0.30	0.10	0.12	0.26	0.28
8	0.18	0.18	0.02	0.28	0.30	0.10	0.26	0.18	0.28
9	0.18	0.18	0.02	0.28	0.30	0.10	0.26	0.26	0.32
10	0.18	0.26	0.02	0.30	0.30.	0.10	0.12	0.26	0.32
Total	0.72	1.34	0.161	0.248	1.42	0.75	1.61	0.155	2.22
Mean	0.07	0.13	0.16	0.25	0.14	0.075	0.16	0.15	0.22

Table 6
Excitablity Score for Normal Boys

Excitability Score	I	II	III	IV	V	VI	VII	VIII	IX
1	0.18	0.34	0.34	0.32	0.11	0.18	0.51	0.09	0.28
2	0.18	0.09	0	0.28	0	0	0	0.26	0.28
3	0	0	0.02	0.32	0	0.10	0.26	0.18	0.36
4	0.44	0.34	0.32	0.23	0.38	0.14	0.12	0.26	0.32
5	0.18	0.34	0	0.19	0	0.18	0.12	0	0.52
6	0	0.34	0.02	0.28	0.11	0.14	0.12	0.09	0.28
7	0.09	0.18	0.01	0.28	0.38	0.10	0.12	0.34	0.36
8	0.18	0.34	0.30	0.30	0.38	0.10	0.12	0.18	0.28
9	0.18	0.09	0.26	0.28	0.22	0.10	0.62	0.34	0.36
10	0.50	0.17	0.30	0.32	0.22	0.50	0.40	0.34	0.36
Total	1.93.)	2.23	1.57	2.80	1.80	1.54	2.39	2.08	3.70
Mean	0.19	0.22	0.16	0.28	0.18	0.15	0.24	0.21	0.37

Table 7
Summary of Analysis of Variance of Raw Scores of Orphans

Source of Variance	SS	DF	MS	F	P
Between Sexes	50304.63	1	50304.63	10.5	<.01
Between Scores	98754.67	1	98754.67	20.5	<.001
Sex x Score	1177.2	1	1177.2	0.24	N.S.
Residual	173049.4	36	4806.9		
Total	**323285.90**	**39**			

A brief analysis of the foregoing tables appears in order. Table 7 shows the difference between boys and girls as far as excitability scores are concerned. Girls are significantly more excitable than boys as measured by this test ($p < .01$). So far as the levels of excitability are concerned, it was expected that high scores and low scores on this scale would differ significantly. The results of the analysis of 2 x 2 factorial design depict this significant difference ($F = 20.5$, $p < 001$). The interaction between sex and score turned out to be insignificant. Tables 3 and 6 show that orphan boys had a higher score on high emotionality than normal boys. Though not statistically significant, the difference conforms that parental deprivation coupled with institutionalization may lead to greater emotionality. It appears that orphan boys showed significantly greater aggressive behaviour than normal boys. The difference between orphan boys and girls on this account appears insignificant. Slight difference could probably be explained by the greater susceptibility of girls to emotional excitement. A striking fact emerging from Tables 3 and 5 is that orphan boys show a marked tendency to vary work activity according to their mood and girls show this tendency even more markedly. This tendency needs to be studied in depth since it could influence the rehabilitation of orphan children. Perhaps it may be possible to discover training strategies to overcome the tendency and to increase the attention span and interest of these children.

Table 5 seems to conform the common belief that girls show higher verbal activity than boys. The circumstances of being placed in an orphanage do not seems to inhibit this natural tendency. However, a more interesting fact is that both orphan boys and girls show much higher verbal activity .than normal boys. Verbal activity may conceivably be a substitute for physical agression which is overtly discouraged by institutional authority figures. If verbal activity is symbolic of rebellion, girls would appear to be slightly more rebellious than orphan boys. The results of Table 5 are quite interesting. Orphan girls are slightly more sociable than orphan boys. But all orphans were more sociable than normal boys. This tendency may be attributable to the practice of many institutions to consciously encourage the inmates to be outgoing so that donors and patrons may be attracted to the institution.

Table 5 also suggests that orphan girls are far more sensitive to interpersonal demands than orphan boys or normal boys. This seems to be in accordance with the finding that orphan girls show the highest verbal activity. The potential foi aggressive as well as friendly verbal activity seems to be the highest among orphar girls who may be more receptive to the encouragement of these tendencies by the authorities of the institution. Orphan girls score the highest on amenability followec by orphan boys. Normal boys score significantly lower. The reason for this phenomenon stems from the fact that life in the orphanage is more regimentec and pays great stress on conformity to rules. A similar trend is discernible on the predictability factor bringing outonce again the role of regimentation and rigidl) enforced discipline.

Home life is the highest and finest product of civilization... Children shouk not be deprived of it except for urgent and compelling reasons. This is the mos fundamental human right. The second World War produced the problem of orphar children with all its nakedness. WHO has been trying to reorient the human mine in order to bring forth a new era in the field of child rearing for human posterity Psychiatrists did not fall back to take notice of the ill effects of parental deprivatior in early childhood. Bowlby published the result of his study in 1952 and created ***i*** sensation throughout the world. He concludes that actual separation alone is no harmful. A sense of separation may be generated by the loss of love from th« parents, though actually they are not separated in space from the child.

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TEACHER EDUCATION IN ANDHRA PRADESH

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OVERVIEW

The teacher training programmes are being provided in Andhra Pradesh through 49 government and private B.Ed. Colleges, 23 DIETs and 2 TTIs, besides Departments of Education in universities. Different types of teachers training like B.Ed. (Special) for visually handicapped and hearing imparted are also offered. The colleges, which offer physical education, are 24 in number in the State. .

B. ED. PROGRAMME

Admission Procedure

Admissions are made to all the courses through common entrance test in the State. These tests are conducted by Andhra Pradesh Higher Education Council every year. Candidates are admitted on the merit of their ranks scored in the test, subject to reservations for SC, ST, BC and women.

Tuition Fees

The fee in the government B.Ed, colleges and aided colleges is Rs. 150/- and in the private/unaided colleges, it is Rs. 4,100/-.

Nature of courses

(a) Four general subjects and two methodologies 100 marks each :

- (i) Teacher in Emerging Society:
- (ii) Psychological Foundations of Education
- 0ii) Perspectives in Education
- (iv) School Administration and Management

and

- (v) Methods of Teaching School subjects

(b) Practium **:** The practice teaching on two methodologies is intensively taken by the candidates. There is a university practical (final) examination having100 marks each.

B.Ed. Colleges University wise

Sl. No. University	No. of Colleges
1. Andhra	10
2.Osmania	15
3. Nagarjuna	9
4.Sri Venkateswara	6
5. Kakatiya	9
Total	49

Out of these, recently , 4 have been upgraded as IASEs. No. of students admitted every year is 150.

Evaluation Procedure

There is internal and external system of evaluation in all the training colleges-external evaluation in theory and internal evaluation in teaching practice.

Teaching Practice System

The candidates are expected to deliver 10 intensive practice teaching lessons each in both methodologies subject and languages. There are 400 marks for teaching practice including record work.

PRIMARY SCHOOL TEACHER TRAINING

District Institutions of Education and Training (DIETs) have been established by MHRD under NEP'86 to improve the quality of primary school education. These DIETs have been functioning in the state since 1989. The central government is providing funds for these DIETs.

Admission Procedure

Admissions are given to persons having passed +*Z* stage and having qualified in the State wide common entrance test 30 percent of seats are reserved for girls in each category. Candidates belonging to SC, ST and PHC category have upper age limit 28 years and have to secure 40 per cent marks at +2 stage. Candidates belonging to O.C. and B.C. category have the age limit as 25 years and minimum marks 45 per cent at *+2* stage. Media of instruction are Telugu and Urdu.

Duration

The duration of the training course is 9 months (220 working days). The course is non-stipendiary and non-residential.

There is one DIET in every district of Andhra Pradesh. Teacher Training Institutions known as Sub-DIETs, situated in Aruku Valley, Visakhapatnam, Utnoor, Adilabad, cater to the needs of tribal people in those areas. There are in total 23 DIETs. 21 DIETs have intake capacity of 150 each and two DIETs at Cuddapah and Hyderabad have 225 each.

There are two teacher training Institutes in Andhra Pradesh. These are situated in Utnuru and Paderu which are tribal areas. The intake of candidates in these TTIs is 150 each.

Staff Pattern in DIETs

The following is the pattern of teaching and non-teaching *posts* sanctioned for each DIET.

Sl. No. Category of the Post	**No. of posts sanctioned**
1. Principal	1
2.Sr. Lecturers	7
3.Lecturers	17
4. Work experience teacher	1
5.Office superintendent	1
6.Technician	1
7.Sr. Accountant	1
8.Statitician	1
9.Jr. Steno / Typist	1
10. Clerks	9
11.Librarian	1
12. Lab Assts.	2
13. Class IV	5
Total	48

The student-teachers in the DIETs are supposed to teach all the subjects from l-VII in schools. They shall have to get 40 per cent marks in internal assessment made by the teacher educators.

Practicum

Teaching Practice (Electives)	**Language**	**Non-language**
Telugu, English, Urdu	Math P.S. B.S. S.S.	
Teaching practice lessons	10	10

Observation lessons	5	5
Observation lessons	5	5

Internal Assessment for Language Electives

Teaching practice	10 Lessons	90 Marks
Observation	5 lessons	10 Marks
	Total	100 Marks

Internal Assessment for Non Language Electives

Teaching practice	3 Lessons	30 Marks
Observation	3 lessons	10 Marks
Tests (2)		20 Marks
Technical Exams (2)		20 Marks
Assignment		10 Marks
Teaching Aids		10 Marks
	Total	100 Marks

Scheme of Examinations

Paper I Philosophical and Sociological Foundation of Education, Modern Trends of Education & Educational Administration.

Paper II Psychological Foundations of Education

Paper III Methods of Teaching Language (English/Telugu/Urdu)

Paper IV Methods of Teaching non-language (Mathematics, Physical Science, Biological Science, Social Studies)

Note : Each theory paper carries 100 marks and the duration is of 3 hours.

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TEACHER EDUCATION (SECONDARY) IN KARNATAKA

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OVERVIEW

The Bachelor of Education degree course in Karnataka prepares effective secondary school teachers to work in schools. This course is offered in private aided and government institutions. The State has a Regional Institute of Education of NCERT, located at Mysore, which provides four year integrated course leading to B.Sc.Ed. degree. A detailed picture of the Teacher Education (Secondary) course in Karnataka is presented in the following sections.

TEACHER EDUCATION PROGRAMMES **IN** THE COLLEGES OF EDUCATION

Academic **Session**

Every year, during the months of June/July, the admissions begin in all types of, colleges, as per the University regulations. The B.Ed, classes begin in the month of August of every year.

Admission Procedure

With effect from 1995, the State Government has taken over the task of selection of B.Ed, students, and their placement in different colleges of education. This task is undertaken through the DIETs **of** respective districts. Only 20% of the seats are available to the management **of** institutions to admit students to B.Ed, course.

Tuition Fees

The tuition **fees** are charged as per the government rules in the government colleges. The government B.Ed, colleges do not take any capitation fee, where as the private B.Ed, colleges which are aided as well as unaided are in the practice of charging capitation fee, besides the regular tuition **fee.**

Admission Requirements

A Bachelor or Master Degree holder in humanities or basic sciences from any university in the State of Karnataka is eligible for admission. The applicant should have a minimum of 45% in the degree examination (40% in the case of SC and ST candidates) and should have studied the papers, he or she is going to choose as specialisation under B.Ed, course, as optionals in the graduation course.

Courses of Study

The B.Ed, courses of study followed throughout the Karnataka State have certain general features like (i) Theory (ii) Practicals. The theory includes certain genera! papers which are compulsory and certain optional papers. A general view of one course giving the details of the theory and practicum is given in the following table :

Table 1

Theory Papers and the Practicum

Paper	Title	Hours/ Week	Marks
Ed 1	Education in Emerging India	4	100
Ed 2	Educational Psychology	4	100
Ed 3	Secondary Education and Teacher Functions	4	100
Ed 4	Content-cum-Methodology of Teaching School Subject-! (CCM-1)	5	100
Ed 5	Content-cum-Methodology of Teaching School Subject-ll (CCM-2)	5	100
Ed 6	Area of Specialisation *	2	100
Ed 7	Practice of Teaching and Related Assignments of CCM-1	-	200
Ed 8	Practice of Teaching and Related Assignments of CCM-2	-	200
Ed 9	(A) Socially Useful Productive Work	3	Grades# (ABCDE)
	(B) Physical Education and Games or Co-curricular Activities	3	Grades# (ABCDE)
	Grand Total	30	1000

- Internal Assessment

* - Under Ed. 6, the colleges offer the following (as many as possible) from which the student has to choose one-1. Education of the Exceptional Children 2. Action Research 3. Educational and Vocational Guidance 4. Population Education'5. School Library Organisation 6. Health and Physical Education 7. Value Education 8. Adult and Continuing Education 9. Environmental Education 10. Computer Education.

Practice Teaching

The practice teaching in B.Ed, course is preceded by an intensive training programme in micro teaching skills. Every student is expected to practise a minimum of five micro-teaching skills as a preparatory exercise for practice teaching. The student teachers are also exposed to 2 to 5 demonstration lessons in each of his/her subjects of specialisation under content-cum-methodoiogy (CCM) before they are initiated into practical sessions, in certain colleges of education, the content competency of student teachers, in subjects chosen by them under CCM with respect to secondary school is strengthened through an enrichment programme provided through general orientation before the students are sent for practice teaching. The students are expected to deliver 12 practice teaching lessons and a criticism lesson in each specialisation during their practice of teaching in the respective schools allotted. In case of lessons given under each specialisation, af least five lessons and a criticism lesson in each subject are fully supervised by the college staff. Each student is expected to fully observe at least 30 lessons in each subject and maintain proper records of lessons observed. She has to attend the feed back sessions held by the supervising staff as well as participate in the discussions. S/he is also expected to prepare and submit a minimum of two teaching aids in each of the CCM specialisation and a minimum of 60 objective based, objective type test items in each CCM subject. In addition to these, one unit plan and one unit test in each CCM subject chosen are prepared. The unit tests are administered by the student teachers in the schools, where they teach. The results of these are interpreted. The student teachers get their lesson plans corrected by the respective method masters before they deliver the lesson in the classroom.

The overall internal assessment of practice teaching is inclusive of the assessment of

(i) 12 lessons in each CCM subject,

(ii) criticism lesson plans in each CCM subject,

(iii) observation records,

(iv) teaching aids, and

(v) the unit test, carries a total of 150 marks, whereas the external practical examination carries a total of 50 marks. The following table gives the spread of internal marks of *practice* teaching.

Table 2

Distribution of Marks for **Assessment** of **Practice Teaching**

	Item	internal	External
1.	**a.** Practice of teaching lessons in CCM-I and CCM-II	50	
	b. Criticism of lessons plans in CCM-I and CCM-II	20	
2.	Lesson plans (supervised)	20	
3.	Observation records	10	
4.	Teaching aids (at least two)	10	
5.	Test materials	10	
6.	Unit plan	15	
7.	Unit test	15	
8.	Practical examination (CCM-I and CCM-II)	-	50
	Total	150	50

The university conducts the practical examination wherein each candidate teaches one lesson under each CCM subject for one class period in **a** secondary school allotted. Each lesson is observed and assessed by two examiners preferably, one internal and one external, or sometimes both external supervisors from local colleges of education. The university appoints every year, a Board of Coordination to moderate the internal assessment marks. This board consists of two principals (internal), one senior member of the college of education, and one external principal. The Board Chairman invites for all relevant information from colleges and intimate in advance about the Board's visit to the colleges. The Board gives necessary instructions with respect to moderation of internal assessment as per the guidelines formulated after scrutinizing relevant records.

FOUR YEAR INTEGRATED TEACHER EDUCATION PROGRAMME

The RIE at Mysore provides the B.Sc.Ed. course (a combination of general content degree and a teacher training degree) for students belonging to the southern region (Karnataka, Andhra Pradesh, Tamil Nadu and Kerala). It has the semester scheme for all the four years of B.Sc.Ed. course. The students entering into four year integrated course get **a** combined degree of B.Sc. and B.Ed, professionally qualified for teaching in a secondary school. The educational courses offered in four year B.Sc.Ed. course is as follows.

Table 3

Professional Education Papers for Four Years

Year	Papers	Marks
1st year		
Sem I	**Health and Physical Education**	30
Sem II	**Introduction to Education**	50
	Health and Physical Education	30
2nd year		
Sem III	**Educational Psychology**	50
Sem IV	**Instructional Media and Materials**	75
	Educational Psychology	75
3rd year		
Sem V	**Educational Psychology**	75
	Skills and Strategies of Teaching	75
	Teaching of Mathematics	100
	Teaching of Physical Sciences	100
	Teaching of Biological Sciences	100
Sem VI	**Curriculum and Evaluation**	75
	Skills and Strategies of Teaching	75
	Teaching of Mathematics	100
	Teaching of Physical Sciences	100
	Teaching of Biological Sciences	100
4th year		
Sem VII	**Teaching of Mathematics**	75
	Teaching of Physical Sciences	75
	Teaching of Biological Sciences	75
	Internship (six weeks)	250
Sem VIII	**School Management**	75
	Teacher, Education and Society	75

Internship **in** Teaching

The students are exposed to micro teaching skills (at least five) under the paper "Skills and Strategies of Teaching" in the 5th semester. Practical sessions are held where the students practise micro teaching lessons. During 6th semester, the students are exposed to different models of teaching which is once again followed by practical sessions during which the students plan the lessons and practise various models of teaching in their specialised subjects. Similarly, orientation is given in the special papers like Teaching of Mathematics, Physical Sciences and Biological Sciences for writing lesson plans, unit plans, developing unit tests, preparing teaching aids, etc.

At the beginning of VII semester, during July of every year, the internship programme begins. The internship programme conducted every year is one of the innovative and integral components of four year integrated course.1t is a month long programme which includes classroom teaching, student evaluation, and organising co-curricular activities. The student teachers are sent to selected schools in their respective states in the southern region for undergoing the teaching experience. Before the students are sent to different centres, one head master and two teachers representing each of the selected cooperating schools from each centre are invited to RIE for two or three days under the programme "Pre-internship Conference." During the conference, the cooperating teachers are oriented towards the various aspects of internship in teaching like, objectives of the internship, approach to lesson planning in different subjects, use of student teaching profile, etc. They are also briefed about certain responsibilities like discussing the lesson plan (pre-lesson discussion and post-lesson discussion) during which the cooperating teachers can guide the student-teachers towards better performance with their insight and experience in content and teaching methodologies.

In this manner, the student teachers get a practical field experience of not only teaching, but also conducting various co-curricular activities in the schools and participating in most of the activities and the responsibilities as regular teachers.

CONCLUSION

Teacher Education programme has thus been carried out in Karnataka as discussed in preceding paragraphs. Though certain innovative measures have been adopted by a few reputed institutions to enrich and improve the quality of teacher education, a long and a serious effort is required to improve the quality of teacher education, especially in the practice teaching domain. A serious and a rigorous research effort is required to analyse the present practices in teacher education institutions, and to build up a model framework which would improve different aspects of teacher education.

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TEACHER EDUCATION IN KERALA

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OVERVIEW

There are Government and Private (both aided and unaided) teacher training Institutions in Kerala which have been imparting teacher education at different levels of school education.

SECONDARY SCHOOL TEACHER TRAINING

Universities control the B.Ed, programmes in Kerala. Government and private training colleges and teacher education centres of each university have been offering B.Ed, course. Recently, a number of unaided training colleges have been started.

There are 6 universities (including the newly formed Malabar University) in this State. All of these, except one University, i.e. Cochin University of Science and Technology are offering B.Ed, courses. Sree Sankaracharya University of Sanskrit has been imparting secondary school teacher training through its four teacher education centres. This university has been conducting B.Ed, course in the following subjects.

1. Sanskrit - Malayalam
2. Sanskrit - Hindi,
3. Sanskrit - Social Studies
4. Sanskrit - Child Education.

The distribution of training colleges in each district.in Kerala is as given in Table-1.

Table-1

Distribution of Training Colleges in the Districts of Kerala

	District	Government colleges	Private colleges
1.	Thiruvananthapuram	1	2
2.	Kollam		2
3.	Pathanamthitta		2
4.	Alappuzha		1
5.	Kottayam		4
6.	Idukki		

7.	Ernakulam	0	2
8.	Thrissur	1	0
9.	Palakkad	0	1
10.	Malappuram	-	-
11.	Kozhikode	1	1
12.	Wayanad	-	-
13.	Kannur,	1	0
14.	Kasaragod	-	-
	Total	4	15

There is no training college in 4 districts. But Teacher Education Centres of the corresponding universities are situated in these districts.

B.ED. COURSE OF UNIVERSITY OF **CALICUT**

Four training colleges- 2 government and 2 private are affiliated to the University of Calicut. Five Teacher Education Centres are working under this University. No regular teaching faculty is attached to these centres. Teachers are posted on contract basis each year. Intake capacity of these centres varies from 200 to 400 students.

Since 1995, 6 unaided training colleges are functioning under this university,

Course Outline .

The B.Ed, course is divided into two parts : Theory and Practical. Details are presented in Table-2.

Table-2

Outline of **B.Ed.** Course

Part-**I** Theory (500 marks)		Maximum Marks
Paper I	Foundations of Education- Psychological	100
Paper II	Foundations of Education- Philosophical, Historical and Sociological	100
Paper III	Education in India, School Organization and Health Education	100
Paper IV	Content Methology of the concerned optional subject	100
Paper V	-do-	100

Part-II	**Practical (500 marks)**	
1.	Audio-visual education	25
2.	Measurement and evaluation including diagnosis and remedial teaching	75
3.	Leadership activities (Social Service) and physical education	50
*4.	Optional subject:	
	a. Teaching	300
	b. Record of lesson plans including practice teaching, criticism and demonstration lessons	50

* Optional subjects include Mathematics, Physical Science, Natural Science, Social Science, Malayalam, Hindi, English, Arabic and Sanskrit.

Eligibility for Admission

A candidate is eligible for admission to the B.Ed, course provided he/she has taken a Bachelor's degree with a minimum of 45% marks.

PRIMARY SCHOOL TEACHER TRAINING

Primary school teacher training is given through Teacher Training Institutions (TTIs). There are government and private (both aided and unaided) TTIs. Out of 35 government institutions, 14 are DIETs. Each TTI has an intake capacity of 40 students. Some institutions are co-educational and some are only for male or female trainees. District-wise distribution of TTIs in Kerala is given below.

Table-3

Distribution of Primary School Teacher Training Institutions in Kerala

	District	**Government**	**Private**	**Total**
1.	Thiruvananthapuram	4	4	8
2.	Kollam	2	6	8
3.	Pathanamthitta	1	10	11
4.	Alappuzha	3	7	10
5.	Kottayam	3	7	10

•' (Contd.)

	idukki «	1 ;	-	1
	Ernakulam	4	10	14
8.	Thrissur	1	7 I	8
9. '	Patakkad •	3	4	5
10.	Malappuram	2	3	5
11.	Kozhikode	3	2	5
12.	Wayanad	2	1	3
13.	Kannur	4	**1**	5
14.	Kasaragod	2	**1**	3
	Total	35	63	98

Course.Outline *

The primary teacher training course includes both theory and practical. First year of the course mainly concentrates on content aspect. It covers Malayalam, English, Mathematics, General Science and Social Science and also principles of primary education and health education,, At the end of the first year, there is a public examination for all subjects mentioned above,

In the second year, the methodology of teaching Malayalam, English, Mathematics, General Science and Social Science are studied by the trainees. In addition to this, Educational Psychology and School Organization* are also covered. At the end of the second year, there is a public examination.

- < T h e p p t e r a t tathe-p«^i*i^tea«p^^cateachtf^ preparation of records, visits and study tours, preparation of albums, community living programme etc.

Eligibility for Admission

The minimum requirement for admission to primary teacher training course is Secondary School Leaving Certificate (S.S.LC).

TEACHER TRAINING FOR EARLY CHILDHOOD EDUCATION

Pre-primary school teacher training in Kerala is imparted through government and private agencies. There are 3 government and 18 private pre-primary teacher training institutions.

Course Outline

The course consists of two parts: theory and practical. Details are presented in Table-4.

Table-4 .

Course Outline

Part I Theory (400 marks} -		Marks
Paper 1	Philosophical, Sociological and Historical Foundations of ECE and Child Activities .	100
Paper II	Psychological Foundations of ECE *	100
Paper ill	Health, Nutrition and Welfare of the Pre-schpol Child	100
Paper IV	School Organisation and Community Relations for ECE.	100
Part If Practical (400 marks)		
	1. Teaching Practice	150
	2. Arts and *Crafts*	75
	3. Records, Library works and Assignments	100
	4. Co-curricular Activities	75
	Total	800

Eligibility for Admission

The minimum requirement for admission to pre-primary teacher training *course* is S.S.LC.

Duration of the course

The course is for one academic year.

CONCLUSION

Secondary and primary ***teacher training programmes*** in Kerala are traditional in ***nature.*** B.Ed, curriculum in Kerala, especially of the University of Calicut requires immediate revision. The State government gave permission for starting a number of unaided B.Ed, colleges. In these institutions and in B.Ed, centres of all universities, teachers are posted on contract basis. Most of them do not have the required academic and professional qualifications, which has resulted in the poor performance of these institutions. In this context, NCTE should take necessary *steps* to control the increasing ***number*** of training colleges and thereby pave way for producing efficient secondary school teachers. Since DIETs are the entrusted agencies for the empowerment of education programmes in the primary sector, they should initiate a revision of curriculum for primary teacher training programme; Eventhough six years have passed after the establishment of DfETs in Kerala, their working has yet to reach the desired level regarding physical infrastructure, and human and ***financial*** resources.,

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TEACHER EDUCATION IN NAGALAND

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Teacher education, both pre-service and in-service, is of very recent origin in the State. As per Statistical Handbook 1992 of Nagaland, 37.84 per cent of teachers were trained. Percentage of teachers trained at various levels of schools were as follows :

Percentage **of** Trained Teachers

Stage **of** Education	Percentage
High School	28.56
Middle School	27.03
Primary School	48.14.

The teacher training institutions of the State are as follows :

Sl.No.	Name of the Teacher Training Institution	Courses Offered	Year **of** Establishment
1.	Nagaland College of Education, Kohima	B.Ed. & UGTT	1975
2.	Salt Christian College of Education	B.Ed.	1994
*3.	J.T.T.I. Chiechama	JTT	1954
4.	J.T.T.I. Mokokchung	JTT	1962
5.	J.T.T.I., Tuensang	JTT	1964
6.	St. Paul's Institute, Phesama	UGTT	1977

B.Ed, course is offered by the University of Nagaland. The Junior Teacher Training and Under Graduate Teacher Training courses are offered by the State Board of Teacher Education. The duration of UGTT is one and a half year. There is also a Hindi Teacher Training Institute at Dimpaur which offers Diploma course of four year duration for class VIII pass students.

BACHELOR OF EDUCATION PROGRAMME :

The essential qualifications for a lecturer in education are M.A./M.Sc. and B.Ed, or M.A. (Education). Course structure of Nagaland University B.Ed, course is as follows :

Sl.No.	Area	Marks External	Internal	Total
1.	Teacher and Society	80	20	100
2.	Educational Psychology	80	20	100
3:	Educational Technology	80	20	100
4.	Problems of Education in India with Special Reference to North East Region	80	20	100
5.	Special courses (Any two)	40	10	50
6.	-do-	40	10	50
7.	Teaching specialisation (Any two)	80	20	100
8.	-do-	80	20	100

Special courses include; 1. Adult and Non-formal Education, 2. Special Education forthe Gifted and Backward, 3. Education and Rural Development, 4. Educational Guidance and Counselling, and 5. Population Education. Subjects offered under teaching specialisation include 1. Life Sciences, 2. Physical Sciences, 3. History, 4. Social Studies, 5. Mathematics, 6. English, 7. Geography, 8. Home Science and 9. Indian Language.

Practical Work

Every student teacher is required to complete all assignments of section I and one of the assignments of section II.

Section I - Educational Statistics

1. Numerical data arid frequency distribution
2. Graphical representation of data-frequency polygon and histogram
3. Measures of central tendency- mean, median and mode
4. Measures of variability-range, quartile deviation, & standard deviation
5. Correlation-rank difference method.

Section II (Any one of the following)

1. Administration of a test and interpretation of the results
2. Sociometric study of a class with interpretation
3. Observation of teaching in classroom situation using FIACS
4. Development of a programmed learning of about 25 frames
5. Review of work (Title to be suggested by teacher educator)
6. Remedial teaching in language or mathematics

7. Identification of weaknesses in learning and remedial programmes
8. Planning and conducting a co-curricular activity
9. Observation

Every student is required to deliver minimum 20 lessons in each of the two teaching specialisation subjects. Some of these lessons may be given under simulated situations.

A Board of Examiners is appointed for evaluating teaching skills. The evaluation is undertaken through viva-voce, review of practical work and observation of at least one teaching lesson. Grading in a 4 point scale is adopted, for the purpose- Grade O- Outstanding (70 and above); Grade A- Good (60-69), Grade B- Average (50-59) and Grade F- Fail (Below 50). A candidate, in order to pass, must get a minimum of 'B' Grade in the combined Grade on practical and Teaching. In case of theory, a candidate in order to pass, has to get a minimum 25% marks in each paper both in external and internal and a minimum of 40 marks in combined. There is scope for back paper. Those who secure minimum pass marks in written and sessional work but fail to obtain the minimum aggregate marks may reappear at one or more courses twice within a period of three years from the date of admission. Those who fail to clear the sessional practical work and practice teaching parts may repeat in the part or parts in which failed, only once within a period of three years from the date of admission. Sessional marks in different courses and grades in practical assignment are finalised by the principal and staff of the respective college and submitted to the University before the commencement of the theory examination.

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TEACHER EDUCATION IN PONDiGHERRY

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Teacher education programmes in Union Territory of Pondicherry are restricted to B.Ed, programme. There are two teacher training colleges one at Pondicherry and the other at Mahe. These are under private *management* The Pope John Paul II college of Education at Pondicherry has also instituted four year integrated course in 1995-96. Pondicherry University, a Central University offered B.Ed, programme through distance education during the session 1995-96.

B.ED. (DISTANCE EDUCATION) PROGRAMME OF PONDICHERRY UNIVERSITY

Various aspects of B.Ed. (Distance Education) course outline of Pondicherry University for 1995-96 session were as follows :

Course Outline :

The course outline for B.Ed, programme is given below:

Sl. No.	Title of Paper	Total	Marks Internal	Marks External
1.	Responses to Challenges in Education	**100**	25	75
2.	Learning for Human Development	**100**	2.5	75
3.	Innovations in Education	**100**	25	75
4.	Population Study/Non-formal Education	**100**	25	75
5.	Tamil/Hindi/English	**100**	25	75
6.	Special Tamil/Spl. Hindi/ Spl. English/ Mathematics/ Phy.Sc/ Bio. Sc./ History/ Commerce/ S.S.	**100**	25	75
	Theory Total	**600**	**150**	**450**
7.	Practicals I & II **200** in each paper	**400**	**400**	—
	Total	**1000**	**550**	**450**

The ratio between theory and practical marks was 3:2 and the ratio between internal and external marks was 1**1**:9.

Details of practical examination were as follows :

(a)	Teaching competence 1	100
(b)	-do- II	100
	Educational Practicals	
(a)	Tests and measurement record (Opt. II)	25
(b)	Audio-visual record (Opt.II)	25
(c)	Case study record	50
(d)	Teaching aids (Opt.I)	50
(e)	Teaching aids (Opt.II)	50
	Total	400

Pass marks in theory papers is 40 with minimum 30 marks in external and 10 marks in internal examination. Pass marks in practical teaching competence is 50.

Theoretical Instruction

Distanceedu cation programme was provided with the help of temporarily recruited persons. Co-ordinators of various centres and resource persons were paid remuneration. Classes were generally held for 3 hours at a stretch. The resource persons were paid a remuneration at the rate of Rs. 70/- per hour and Rs. 35/- as conveyance charges per day and travel expenses for outsiders. Some resource persons did not have any experience as lecturer/reader in teacher training Institutions and had only school teaching experience.

Teaching Skill Development Through Micro Teaching

Four skills of teaching- probing questions, reinforcement, explaining and stimulus variation were covered. The busy schedule of short duration contact programme did not give scope for proper micro teaching consisting of plan- teach- feeback- replan- reteach- etc. Huge number of B.Ed, students attached to centres affected the quality. Such training was not found in case of one centre.

Training in Audio Visual Aids Preparation and Use

Every student teacher was required to prepare/develop 49 teaching aids as specified fin next page.

Sl.No.	Specification of teaching aids	Number of teaching aids		
		Total	Optional 1	Optional li
1.	Charts	20	10	10
2.	Three Dimensional Aids.	6	3	3
3.	Slides	4	2	2
4.	Table top cutouts	6	3	3
5.	Flash cards for flannel board	6		3
6.	OHP transparency	2	1	1
7.	Album of pictures	2	1	1

Besides above categories of 46 teaching aids, there had to be 1 working model, 1 film strip and 1 flannel board for Optional II subject. The standard size of a chart was to be 70 cms x 55 cms. The. charts could contain diagrams, match stick drawings, substitution tables, pictures, teaching points, etc. The working model need not be on a topic of teaching practice lessons. A record of audio-visual aids has to be maintained giving details of preparation of a.v. aids mentioning significance of their use in the classrooms. Such numbers of audio-visual aids are not expected from B.Ed, candidates of many universities.

Lesson Planning

Lesson planning format covered following aspects :

1. Instructional objectives
2. Teaching aids
3. Introduction
4. Presentation
5. Expected outcomes of teaching learning activity
6. Review
7. Home assignment

As there is wide spread differences in formats used in various parts of the country, confusion was possible among resource persons of **a** particular area not used to above format.

Demonstration Lessons

No provision for demonstration lessons in real classroom situation was found. This is a serious drawback.

Observation of Teaching of School Teachers

A student teacher was expected to observe 5 lessons of regular school teachers and record these observations in a notebook.

Training in Case Study and Psychological Experiments

A student teacher was expected to carry out at least 5 experiments in psychology and conduct one case study on students having specific problems either in learning or in their adjustment to environment. Such type of useful provision is not found in B.Ed, courses of study of a large number of universities.

Training in Tests and Measurement

Every student teacher was required to conduct a test, which had been developed by himself/herself and was also required to analyse the results. The record maintained for the purpose had to cover following aspects :

1. Need for measurement, evaluation and achievement test.
2. Characteristics of a good classroom test.
3. Blue print of the question paper administered to the students,
4. Question paper.
5. Mark list
6. Frequency table of the test scores.
7. Measures of central tendency- mean, median and mode.
8. Measures of dispersion-standard deviation and quartile deviation.
9. Rank correlation of the test scores of the students on two subjects or between scores in one subject on two occasions.
10. Histogram, frequency polygon, cumulative frequency curve and ogive of the test scores.

The answer sheets of the students were also to be bound and submitted. Such type of useful provision is not found in case of B.Ed, courses of many universities.

Acquaintance with Physical and Health Education Activities

Each student teacher was required to write about 3 major games and 3 minor games of his/her own choice. Description on each game was to include the theory,, rules, and ground lay out of the game. Each student teacher was also required to write about the need for school health programme and the knowledge to be imparted to students. Such type of useful provision is not found in case of B.Ed, courses of many universities.

Training in Camp and SUPW Activities

One day camp was to be organised during the first phase of the personal contact programme. The student teachers were to submit their own SUPW products to be submitted for evaluation. Such camp was not found in case of one centre.

Maintenance **of** Records

A student teacher was expected to maintain one record aach f o r i Microteaching, 2. Observation, 3. A.V. aids, 4. Case study and psychological experiments, 5. Camp and SUPW activities, 6. Physical education and health education. Besides, one record for each of the two optional method subjects was to be maintained in case of Lesson planning and Tests and measurements. Thus, there were 10 records to be maintained. Such type of useful provision is not found in case of B.Ed, courses of many universities.

Practice Teaching Programme

The student teachers were to deliver practice teaching in schools of their choice. The school teachers were to supervise their lessons. They were not paid for the purpose. The University Guidelines indicated unannounced supervision by university representatives/ lecturers of regular training colleges, for the benefit of distance education students. But such practice was not observed in case of one centre. Thus, student teachers could not get adequate feedback.

Evaluation **of** Assignments

Every student teacher was to submit two assignments in every theory paper for assessment. There was no provision for returning valued assignments, with comments of evaluators to provide feedback to student teachers. Evaluation of teaching was to be undertaken by concerned school teachers.

Provision for Study Materials

Books and reocrds were supplied by the University. As the programme was started for the first time, there was delay in delivery of instructional materials. The first book reached students six months after admission. No instruction on practicals could be printed and supplied to student teachers. The books developed, needed proper editing. In case of some books, references cited in the text were not reflected in bibliography. There was no uniformity in pattern of presentation in various books. Normally, persons with B.Ed., M.Ed, qualifications write text books for teacher training. But this practice was not strictly followed in case of this programme.

Fees

The distance education programme charged following fees :

1. Admission	50.00	2. Registration	'50.00
3. Record	50.00	4. Certificate	50.00
5. Eligibility/Recognition	150.00	6. Postage and stationery	250.00
7. State fund	300.00	8. Special fees	600.00
9. Tuition fee	1950.00	Total	3450.00

This amount is too much in comparison to fees charged for regular courses in many parts of the country. •

REGULAR B.ED. COURSE VRS. DISTANCE EDUCATION COURSE

The course contents of the regular B.Ed. course were different from that of Distance Education B.Ed, course. Paper III of regular course was Evaluation, Elements of Statistics and Research, whereas in case of distance education, it was Innovations in Education. Distance education had only two optionals in Paper IV, whereas regular course offered a number of optional subjects. In case of Pondicherry college, English method was compulsory for all. Whereas in case of distance education, one could choose one out of EnglishV Hindi and Tamil.

Details of distance education practical examination differed from that of regular examination. Details of practical tests for regular course were as follows :

	Aspects	'Marks.
	Group I	
1.	Teaching competency	100+ 100= 200
2.	Preparation and use of instructional aids	50
3.	Practical use of audio-visual apparatus	50
	Total	300
	Group II	
1.	Construction of tests	30
2.	Interpretation of scores	30
3.	SUPW	30
4.	Camp	20
5.	Action research/Project/Case study	20
	Total	• 100
TOTAL		400

In case of regular programme, working with community included SUPW and community work. Camp activities are undertaken for 5 days during the beginning of the year giving students training in community life, first aid/ scouting/ guiding organised in a micro-setting. Pope John Paul II college pays its teachers for their travel for supervising practice teaching lessons. It also gives incentives to practice teaching schools.

CONCLUSION

Distance education programme is inferior as it does not provide for proper training in practicals, which is the main pillar of teacher training.

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EDUCATION OF TEACHERS OF DISADVANTAGED

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"Disadvantaged" are those people in a society who are unable to attain satisfactory intellectual, physical, economic, social and cultural status and hence; are subject to al sorts of harassments, difficulties and limitations in their lives. They are the under privelegec people in the society. Because of their inferior intellectual, physical, economic, social anc cultural status, they constitute the "weaker sections" of the population. The disadvantagec peopje are marked by severe social, economic and cultural deprivations.

In all countries, there are disadvantaged individuals and groups. These deprivec sections of the community struggle hard for survival and development. The Governmen: is expected to take special care of citizens of this category. This involves both protective and promotive measures affecting different facets of their lives. "Disadvantaged" is ar omnibus category. It includes the scheduled castes and the scheduled tribes who account for 22 per cent of our population. It also includes the socio economically deprived backwarc castes, slum dwellers, neglected minority groups and economically backward individuals. The physically handicapped (visual, hearing, speech and orthopedically impaired) and the mentally impaired also fall in this category.

Teacher Education

The teacher who handles the education of the disadvantaged needs to be equipped with special additional inputs like skill, attitude, aptitude, interest, knowledge of the disadvantaged. Not much research work has been done in the training strategies and the evaluation aspects of teacher education for each of the above mentioned categories of the disadvantaged. Teacher education institutions for the disadvantaged both through their preservice and inservice programmes should constantly innovate, devise appropriate methods of communication and activities, evolve new patterns of curricula which are relevant to the needs and capabilities and the concerns of the community. Therefore, there is a strong need to equip the teacher education institutions for the disadvantaged with effective measures in the areas listed below.

Research in Education of the disadvantaged - Teacher Education of

Socially, economically and culturally			Physically disadvantaged			Intellectually disadvantaged
Scheduled Tribes	Scheduled Castes	Minorities Socioeconornically deprived Slum dwellers Women Backward communities	Visual impaired Orthopedically impaired	Speech impaired	Hearing impaired	Special children ft/Ientally impaired

Preservice — Inservice

Input — Process — Output

Input Aspects of Teacher Education for the Disadvantaged

Input takes various forms such as

(i) Opening of schools

(ii) Admission procedures

(iii) Infrastructure

(iv) Fee structure/Stipends/Scholarships

(v) Residential schools/Ashrams/HosteFs

(vi) Appointment of teachers, recruitment procedures

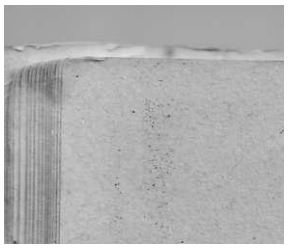
(vii) Appointment of teachers from same community

Process Aspects of Teacher Education for the Disadvantaged

Process aspect covers areas such as :

(i) Evolving curricula

(ii) Training strategies for the teachers of different groups



(iii) Effect of any strategy on certain variables

- Identification and measurement of special teacher competencies, aptitudes, attitudes, interests needed for a teacher of the disadvantaged

(iv) Microplanning/teaching

(v) Methods of motivation

- Training in mainstreaming
- Training for teachers of integrated schools, residential schools, Ashrams Hostels,

Output Aspect of Teacher Education for the Disadvantaged

Output takes various forms such as :

(i) Evaluation strategies in different levels of teacher education of the disadvantaged

(ii) Evaluation of

a) Utilisation of grants and other resources

b) Curriculum

c) Case studies of institutions

d) Main streaming strategies

e) Attitudes, interests, aptitudes of teachers

(iii) Evaluation of the research done in teacher education of the disadvantaged

4

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RIGHTS OF THE CHILD

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1. **The General Assembly of the** UN **adopted a Convention on the Rights of the Child on November** 20,1989. **Within a year,** 107 **countries** *ratified* **it. India is a signatory to the** *Convention,*

The Convention on the Rights of the Child contains 54 **articles, each of which** ***details*** **a specific type of right. These can be broken down into four broad categories.**

(!) Survival Rights cover a child's right to life and the needs that are most basic to existence; these include an adequate *living* **standard, shelter, nutrition and access to medical services.**

(ii) **Developing Rights include those things that children require in order to reach their fullest potential. These include the right to education, play and leisure, cultural activities, access to information, and freedom of thought, conscience and religion.**

(ii) Protection Rights require that children be safeguarded against all *froms* **of abuse, neglect and exploitation. They cover issues such as special care for refugee children, torture, abuses in the criminal justice system, involvfement in armed conflict, child labour, drug abuse and sexual exploitation.**

(iv) Participation Rights allow children to take an *active* **role in their community and nations. These encompass the freedom to express opinions, to have a** *say In* **matters affecting their own lives, to join associations and to assemble** *peacefully.* **As their abilities develop, children are to have increasing opportunities to participate in the activities of their society, in preparation for responsible adulthood.**

2. **The Convention on the Rights of the child aims at making these rights a** *reality for* **every child irrespective of race, nationality, colour, sex, language, or religion.**

Every Child has the Right To

Life and well-being

Health care, nutritious food, clean water and shelter

Protection from conflict, neglect, exploitation, abuse and injustice.

Education to acquire knowledge, develop confidence and enjoy opportunities and choices

Love and support, and the security of a family and a home

Free access to information, and freedom of expression

Freedom of thought, conscience and religion, and cultural identity.

Article 28 of the declaration recognises the right of the child to education and with a view to achieving this right progressively and on the basic of equal opportunity it has enjoined upon:

1.

a. make primary education compulsory and available free to all;

b. encourage the development of different forms of secondary education, including general and vocational education, make them available and accessible to every child, and take appropriate measures such as introduction of free education and offering financial assistance in case of need;

c. make higher education accessible to all on the basis of capacity by every appropriate means;

d. make educational and vocational information and guidance available and accessible to all children;

e. take measures to encourage regular attendance at schools and the reduction of drop-out rates.

2. Take all appropriate measures to ensure that school discipline is administered in a manner consistent with the child's human dignity....

Article 31 states parties recognize the right of the child to rest and leisure, to engage in play and recreational activities appropriate to the age of child and to participate freely in cultural life and the arts. They shall "respect and promote the right of the child to participate fully in cultural and artistic life and shall encourage the provision of appropriate and equal opportunities for cultural, artistic, recreational and leisure activity."

Article 32 states that the children should be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child's education or to be harmful to the child's health or physical, mental, spiritual, moral or social development.

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ENHANCING WOMEN'S PARTICIPATION IN MATHEMATICS EDUCATION

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INTRODUCTION

Since the Creation of the entire universe, it has been propounded in Vedas that, Aditi is the supreme power and the first form of Brahma. She is termed Kali, Durga, and Sarvadevarupini in our ancient literature of different ages i.e. from Mahabharat (5000 B.C.) to Devibhagavat (900 A.D.) Similar is the teaching of Shri Ramkrisnha Paramhans of our age. He says Brahma and Sakti are not separate. When Brahma is in the ***state*** of inactivity, he is called Pure Brahma. When he causes creation, contains existence and makes destruction, he is called Sakti. Napoleon ***said that*** 'The hand that rocks the cradle, rules the world". AIIIhe foregoing versions prove the importance of women ***literacy*** for the upliftment of a society all over the world. By the end of the 20th Century, the independent and,democratic country like ***\nd\a*** will have to think of the percentage of women's participation in science and technology to achieve real prosperity. Today ***India*** is poor not because of its economic condition only, but also because of negligence of women ***literacy*** in modern science.

It is true for the State of ***Gujarat*** also ***that*** females constitute only one fourth of the academic people at any level from secondary to university. Percentage of females in science faculty would be ***st*** less. From these data, one would be inspired to know the reasons for discouraging women in ***maths*** education, as it is the basic requirement for the study of science and technology. For the purpose, a questionnaire was prepared considering different barriers like ***social*** educational, economical and professional. Their prominent problems were known in ***terms*** of percentage of responses given by both the types of female students, (see App.II) i.e. female students with and without ***maths.***

Psychological analysis has proved the fact that a person is interested in the activity which appeals to his prominent mental faculty. On the basis of psychological analysis, the author developed different methods of teaching theorems in geometry including the method of folk ***drama.*** The project of teaching theorems on parallelogram by different mett^ds was planned and implemented for the students of std. IX.

OBJECTIVES

1. To develop different methods of teaching Geometry for secondary school students
2. To find out the effect of the teaching methods on the understanding of the students with special emphasis on the gender difference.
3. To find out the difference in learning capacity of students according to mentai faculties. .'
4. To observe the effect of the school environment on the understanding of female students,

HYPOTHESES

! Different methods of teaching Geometry can be developed.
2. Students can learn Geometry with greater interest, if different methods of teaching are used.
3. There is no gender difference in the understanding of Geometric concepts by different methods.

TOOLS

1. Psychological Model

A leading psychiatrist of India, Dr. M.D. Parikh has developed a model explaning different mental abilities of human beings. It is based on psychological analysis. The main idea of this project was taken from that model. Some oral discussions also were made, -r*^ — « ~ « — ^ ~ * . - . u _ „ no,son is given some stimulus, a variety of responses are found. This is due to the mental processes working in the mind of a human being. These responses are divided into 5 groups called 5 mental faculties. Their strength varies from person to person, which accounts for different interest or different mental ability of persons. The outline of the tool can be understood as shown below.

Table-1

Sl.No.	Mental Faculty	Mental Process	Capacity Depending on the Predominant Faculty
1.	Retentive	Memory .	Academic orientation
2.	Conative	Action	Athletic feats
3.	Rational	Intellaction	Scientific pursuits
4.	Communicative	Perception	Communication
5. • .	Sentient	Affective change	Artistic taste.

2. The *Script* of a Folk Drama

in order to teach the students having prominent sentient faculty, it was essential to *prepare* a drama script to prove the theorem. It was, however, uncommon and a little difficult, because the basic concepts of Geometry were to be combined with elements of *drama* and *literature.* Just to serve the purpose, the author discussed this idea with other teachers from time to time. Teachers teaching languages, mathematics and music were selected from different schools, who helped materialize the idea by giving useful suggestions and guidance. By the end of a week's discussions, the script was made ready in the form of a folk drama known as 'BHAVAP in Gujarati- local language of ***Gujarat***

All the elements of Bhavai are not taken into consideration as under:

(i) No Naman and Ganesh ***prayer*** was taken.

(ii) No music was given as street ***drama.***

(iii) Central character of both the sex had not been selected i.e. Rangali was not taken as a character.

The reasons to drop the above elements were :

(i) As the script was to be used for the classroom teaching of one period only, the prayer would consume some time.

(ii) Music was not taken, only to avoid the external help of musicians.

(iii) Rangali was not taken along with Rangaia because the students of STD IX. were teen-agers. Their attention might be diverted from learning Geometry. Hence, there might be some educational loss instead of gain.

"Tfte script was themirscussed with the students, who were to play the folk drama. They suggested addition of a dialogue of two quarelling factions to make the drama liverly, realistic and interesting. Accordingly, two pairs of students were placed in such a way that no one would try to move from his place. Hence, distance between two pairs of opposite lines would be maintained. Ultimately, the parallelogram would not be disturbed and converted into a cdmmon quadrilateral. Thus, the drama was divided into two parts.

A. The first part included basic concepts of parallel lines and angles and also gave types of quadrilaterals and properties of a parallelogram.

B. The second part gave the proof starting from the statement of the theorem.

Explanation of the Folk Drama

The drama began with the advent of two female students of std. IX discussing about their subject Geometry as a boring one. At the same time, the central character i.e.

a male student known as 'Rangalo' entered and gave correlation of the subject with live demonstrations by singing. The central character-a male student was selected to encourage no gender bias.

The folk drama was divided into two parts. The first part gave conceptua clarifications in Gedmetry, which were found to be confusing for the students of std. IX. the end of the first part, students were clear about the properties of a parallelogram. In the second part, social problems to life were woven in the drama. Two pairs of quarreling boys rushed in and lodged complaints against each other before Rangalo and requestec him to settle their disputes. The central character-Rangalo was very wise and witty. He listened to them patiently and asked them to stand in such positions that each one made the vertex of a parallelogram. Then he himself took position where two diagonals intersect and started giving the proof of the theorem in his unique method of conversation. But since the boys had come quarrelling,they did not follow the given data of the theorem and what was to be proved. It was, however, clarified by means of dialogues. On queries by girl students, Rangalo started the proof by taking two corresponding triangles formed by threads of different colours. Ir^ order to make the triangles congruent, he made use of SAS (side, angle, side) condition of congruency. He stood in the position of a mid-point of 2 diagonals, making the two sides of the triangles congruent. The interior angles of the 2 congruent sides were required to be proved congruent to fulfil the condition of SAS. They, being vertically opposite angles, were always congruent according to the previous theorem. As the triangles were proved congruent, the remaining parts of the triangles were automatically proved congruent The remaining congruent angles were alternate angles, formed by a transversal intersecting 2 lines. Thus, the opposite sides of the quadrilateral were proved parallel. It gave clue to girl students to prove the other pair of corresponding triangles congruent. Then the students themselves discussed and proved the otherpair of opposite lines parallel. As both the pairs of opposite sides were parallel, the quadrilateral was proved to be a parallelogram according to the definition of a parallelogram.

3. Test paper

This was a teacher made test. Questions were based on the basic concepts of theorems, which were learnt during the project. Two questions per faculty were constructed for all 5 faculties. All the questions carried equal marks. Thus, totally 10 questions were there in *the* paper of 50 marks.

SMAPLE

Students of the std. IX had to study theorems on parallelogram. Hence, one class

each of 3 secondary schools was selected from the city of Ahmedabad. Out of the 3 schools, one was exclusively a girl's school; while the other two were co-educational ones as shown in the following table:

Table - II

Sex	Name of the School			Total No. of Students
—	D.B.M.S.	R.M.W.	M.K.V.	—
F	29	11	25	65
M	34	17	—	51
Total	63	28	25	116

IMPLEMENTATION

The project of teaching theorems on parallelogram by different methods was planned only for five theorems out of 12. The first five theorems were selected, because :

(i) The psychological model consisted of only five mental faculties.

(ii) Only one method per faculty was to be prepared.

(Hi) The selected theorems gave the properties of parallelogram and their converse only.

(iv) In the case of all the selected theorems, except the first one, the statements were given without the logical proof or discussion in the textbook.

(v) It could be inferred that these 4 theorems had equal difficualty values.

The statements of theorems are reproduced here with justification of the method adopted for the same.

Theorem -1

A parallelogram has both the pairs of opposite sides and opposite angles congruent.

This theorem was selected for the lecture method, because

It is a base for all the theorems on parallelogram.

The theorem is given in the textbook with logical proof.

The students are habituated to learn Geometry by lecture method, so they would not find it strange.

The lecture method is the best one for the students having predominant retentive faculty.

Theorem - II

The diagonals of a parallelogram bisect each other.

The theorem was selected for the experimental method, because-

The students can learn better by doing the experiments themselves, whose conativ faculty is predominant.

Only the statement of the theorem is written in the textbook i.e. no proof or an, logical discussion is available in the textbook.

Confused concepts of the students about the quadrilaterals could be exposed anc cleared by the teacher.

Theorem - III

If the two pairs of opposite sides are congruent then the quadrilateral is a parallelogram.

This theorem was proved by analysis synthesis method, because-

'here is no logical proof or any discussion available in the textbook.

This method has very good impact on the mental process of interaction and a person having strong rational faculty would be benefited.

Actually the process of teaching can be two way method i.e. the students can solve their difficulties by asking questions to the teacher.

Theorem - IV

If two pairs of opposite angles are congruent, the quadrilateral is a parallelogram.

This theorem was selected for the project method, because-

No logical proof or discussion of this theorem is given in the textbook.

The students with predominant communicative faculty would be encouraged to learn Geometry. I

Some of the students will get the training of the presentation of data as leaders.

Students will get an experience of the group discussion in mathematics.

Theorem - V

If two diagonals bisect each other, the quadrilateral is a parallelogram.

This theorem was to be proved by a drama method, because-

No logical proof is given in the textbook.

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The teenagers are very sensitive. Such socio-cultural approach would make Geometry live and interesting for them.

The students, who are weak in Geometry, can grasp the concepts easily and without any burden.

The project of teaching theorems was given to the selected sample schools as a preliminary work. It was conducted with the help of the teacher trainees. The teaching lasted one week by teaching one theorem per day. On the next week, the students were given a questionnaire. The responses were analysed according to the method of teaching or the mental faculty correlated to the methods of teaching as shown in the following table.

Pattern of Analysis

No.	Theorem	**Suitable method of teaching**	**Predominant mental faculty**	Question Nos.
	Parallelogram has 2 pairs of opposite sides & angles congruent.	Lecture	Retentive	4,10
2.	Diagonals of a Parallelogram bisect each other	Experimental	Conative	3,8
3.	If 2 pairs of opposite sides are congruent, a quadrilateral is a parallelogram	Analysis Synthesis	Rational	6,9
4. ,	If 2 pairs of opposite angles are congruent, a quadrilateral is a parallelogram	Project	Communicative	1,7
5.	If diagonals bisect each other, the quadrilateral is a parallelogram	Folk drama	Sentient	2,5

ANALYSIS AND INTERPRETATION

The obtained data of the sample students are shown in the following table.

Analysis

Faculty-1 :

	Score			
Sex	0	(1 to 5)	(6 to 10)	Total No.
F	11	49	5	65
M	24	19	8	51
Total	35	68	13	116

Faculty-2:

	Score			
Sex	0	(1 to 5)	(6 to 10)	Total No.
F	33	28	04	65
M	27	22	02	51
Total	60	50	06	116

Faculty-3 :

	Score			
Sex	0	(1 to 5)	(6 to 10)	Total No.
F	17	42	06	65
M	23	25	03	51
Total	40	67	09	116

Faculty-4:

	Score			
Sex	0	(1 to 5)	(6 to 10)	Total No.
F	51	14	00	65
M	44	07	00	51
Total	95	21	00	116

Faculty-5 :

	Score			
Sex	0	(1 to 5)	(6 to 10)	Total No.
F	07	20	38	65
M	19	09	23	51
Total	26	29	61	116

Interpretation

Every student possesses all the five mental faculties with more or less strength. Keeping this in view, theorems were taught by different methods. Nothing is given in the text book except the statements of the 4 selected theorems. Students would have, therefore, to answer the questions according to their grasping capacity, which would, in turn, be determined by the mental faculties strong in them. For example, students having powerful sentient faculty would grasp easily the theorem learnt through the drama and answer the questions (no. 2 & no.5) in a better way. On the other hand, no student would be able to answer all the questions perfectly, because he could not have all the faculties equally strong. Hence ultimately no student would have full marks or nil marks in the test paper. It, thus, proves the hypotheses No. 1 and No.2.

The project was undertaken on a preliminary basis. No statistical calculations were found necessary. From the analysis table it is clear that students of the secondary school level have no gender bias in learning the theorems. Thus, 3rd hypothesis is accepted.

Over and above the hypotheses, results prove that scores of faculties 1,3 and 5 are somewhat encouraging i.e. students can learn and grasp batter by lecture method, analysis method and drama method, respectively. The communicative faculty however, shows a very poor score. It is a matter for serious concern that teenagers have little liking for self learning.

APPENDIX - I

Percentage of Female Participants in Education in the Stat? of Gujarat.

Sept. 1993

Sl. No.	Level	Total no. of Teachers	Female Teachers
1.	" School (6th to 12th std.)	63,872	14,687 (23%)
2.	College (Arts, Science & Commerce)	8,393	2,145 (25.55%)
3	University	351	142 (22%)

APPENDIX - II

Barriers in Learning Mathematics for Females.

Sl. No.	Barriers	Quest.	% of 11th std. (without Maths)	% of Graduates *i* higher courses (with Maths)
1.	***Social*** or Family	(i) Lack of ***Parental support***	18%	0.07%
2.	Educational	(i) Methods of teaching are dry & uninteresting	38%	* *64.00%*
		(ii) Lack of guidance	47%	*57.00%*
3.	Professional	(i) Limited opportunities Gender bias	58%	*80.00%*
		(ii) In private jobs	71%	*84.00%*
		(iii) In Govt, jobs	65%	70.00%
		(iv) Exploitation	70%	*78.00%*
4.	***Economical***	No significant problem in the urban area of the ***State of Gu\ara***		